

IMPROVED STATOR CONSTRUCTION FOR HIGH PERFORMANCE ROTATING MACHINES

ABSTRACT OF THE DISCLOSURE

A rotating machine is provided which includes a stator having a number of field winding slots; a number of field windings disposed in each of the field winding slots, at least two of the field windings have: an outer jacket; and a number of conductive wires disposed within and enclosed by the outer jacket such that longitudinal passages are defined between the conductive wires; and circulation means for circulating a coolant into and from the rotating machine through the longitudinal passages. Preferably, the rotating machine further includes a housing which has a cavity for acceptance of the stator therein. The housing and stator define first and second plenums at first and second ends of the stator. The coolant enters the rotating machine into the first plenum and exits the rotating machine from the second plenum.